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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,060	03/24/2005	Osamu Yogi	046124-5368	4361
55694 7590 01/23/2008 DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209			EXAMINER VO, ANH T N	
			ART UNIT 2861	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

TH

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/529,060	YOGI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/02/2008</u>                                                | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2861

***NON-FINAL REJECTION***

The rejection over the Yamada et al reference (US 6,623,113) and Yamada et al. (US Pat. 6,796,632) have been withdrawn in view of the arguments presented in the amendment. The finality of the outstanding office action has been withdrawn.

The prior art reference newly found necessitated anew ground of rejection is below:

***CLAIM REJECTIONS***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-17 are rejected under 35 USC 103 (a) as being unpatentable over Pletcher et al. (US Pat. 6,007,630) in view of Hertz (US Pat. 4,346,387).

Pletcher et al. discloses in Figures 1-2 a print head comprising:

- a nozzle (126), which includes a flat electrode (112), said nozzle disposed opposite the flat electrode;
- an electrode (122) provided on the outer circumference of the nozzle (126); and
- wherein a voltage (106) is applied between the liquid in said ink nozzle (126) and said fiat electrode (122) to form a droplet.

However, Pletcher et al. do not disclose the ink nozzle that houses only an ink and/or only a dilute solution and/or single raw material liquid.

Hertz discloses in Figures 9 an ink jet recorder comprising disclose the ink nozzle (48) that houses only an ink and/or only a dilute solution and/or single raw material liquid.

It would have been obvious to a person having skill in the art at the time the invention was made to employ the teaching of Hertz in the Pletcher print head for the purpose of printing high quality images.

Selecting the optimum material such as glass as recited in claim 17 is considered to be a matter of a mechanical design expedient for an engineer. Lacking of showing any criticality, it would have been obvious to a person having skill in the art at the time the invention was made to select the glass nozzle for the purpose of reducing rusty or oxidation.

#### ***Response to Applicant's Arguments***

The applicant's arguments with respect to the prior art rejection have been carefully considered and have been traversed in view of the new grounds of rejection over Pletcher reference.

#### ***Allowable Subject Matter***

Claims 1-13 are allowed.

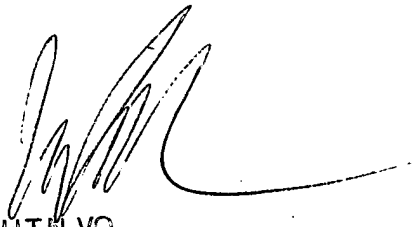
#### ***CONCLUSION***

Art Unit: 2861

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262.

The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M..

The fax number of this Group 2861 is (571) 273-8300.



ANH T.N. VO  
PRIMARY EXAMINER  
January 17, 2008